2012-2013 Hospital Communications Equipment Update

Annually, the department has receives numerous inquiries related to the technical specifications for purchase of radios for healthcare facilities. The use of radios in redundant communication systems is an important part of hospitals all-hazards emergency preparedness efforts. Without clear guidance, selecting the right equipment can be complicated, confusing and expensive. This summary document provides updated information regarding communication standards and may help you in choosing appropriate and allowable equipment.

This document:

- Provides guidance related to communication equipment specification changes, especially those related to “Narrowbanding”
- Offers access information for priority services for wired and wireless hospital communications
- Communicates information related to the upcoming public safety network and impact on hospital communications equipment

On January 1, 2013, all public safety and business industrial land mobile radio systems operating in the 150-512 MHz radio bands were required to cease operating using 25 kHz efficiency technology, and begin operating using at least 12.5 kHz efficiency technology. This deadline was the result of an FCC effort that began almost two decades ago to ensure more efficient use of the spectrum and greater spectrum access for public safety and non-public safety users. Migration to 12.5 kHz efficiency technology (once referred to as Refarming, but now referred to as Narrowbanding) allows the creation of additional channel capacity within the same radio spectrum, and support more users.

As of January 1, 2013, licensees not operating at 12.5 KHz efficiency are in violation of the Commission's rules and could be subject to FCC enforcement action, which may include admonishment, monetary fines, or loss of license.

Please refer to the EMS Communications Plan, Volume I and the FFC Part 90 Guidelines for specific standards related to the purchase and use of radios in a hospital emergency setting.

Equipment List UHF Radio Specifications

Past	2012-2013
• UHF High Band 440-470 MHz • Programmable Transmit • Power 4/1 Watt • Wideband, Synthesized • 100 Channels • 2 – Line 12 Character per line • Alphanumeric LCD Display • DTMF Encode/Decode, ANI • Multi Mode 12.5/25kHz by channel • 1,200 mAh Nickel Metal Hydride Battery • MIL Standard 810C/D/E, Shock, Vibration, Dust, Rain • Programmable CTCSS/DCS, Scan • Includes: Antenna, Battery, Standard Rate • Charger • Removable Belt Clip MPT 1327 Option	• UHF 440-470 MHz • Programmable Transmit • Power 4 Watt • Narrowband • 32 Channels • Alphanumeric Display • DTMF Encode/ Decode Capable • 12.5 kHz Channel Spacing • MIL Standard 810 D/E/F • Programmable CTCSS, Synthesized • .35uV sensitivity @12dB SINAD • 5/5/90 battery cycle over an 8hr period • Additional specs as outlined in the EMS Communication Plan, Volume I Includes: Antenna, Battery, Spare Battery, Standard Rate Charger, Vehicle Charger (optional), Removable Belt Clip

***Note: all purchases must meet standards set forth in the EMS Communications Plan, Volume I and the FFC Part 90 Guidelines.**

UHF Radios:

- **Specification: Wideband to Narrowband**
  - Wideband (25 kHz) standard was transitioned to a Narrowband (12.5 kHz) bandwidth requirement. The Federal Communications Commission (FCC) issued a rule that as of January 1, 2013 radios must operate on a maximum bandwidth of 12.5 kHz. These rules are not just for hospitals; All existing Part 90 radio systems operating in the 150-174 MHz and 421-512 MHz bands had until January 1, 2013 to convert those systems either to a maximum bandwidth of 12.5 kHz or to a technology that provides at least one voice path per 12.5 kHz of bandwidth or equivalent efficiency;
  - The good news is that most equipment sold since 1997 has the capability to operate on 12.5 kHz bandwidth and may just need to be reprogrammed rather than replaced. Equipment purchased prior to 2010-2011 can be reprogrammed using ASPR funds with approval by contract managers;
  - A copy of the Public Notice that was sent out to hospitals in December 2009 to remind licensees of this issue can be found at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-09-2589A1.pdf

- **Specification: 100 channels to 32 channels**
    - The new 32-channel specification consolidates more users on each channel. The overall number of channels is reduced but there is more potential for competing use.
    - New UHF radio purchases should have a 12.5 kHz bandwidth to avoid costs associated with reprogramming.

Radios:

- Radios purchased should be P25 compliant**.**

VHF Radios:

- Wideband transitioned to Narrowband as of January 1, 2013.
- Purchases must conform to the EMS Communications Plan, Volume I and FCC Part 90 Guidelines.

800 MHz Radios:

- Any purchases made for 800MHz radios must be narrow band capable.
- Purchases must conform to the EMS Communications Plan, Volume I and FCC Part 90 Guidelines.

Priority Services for wired and wireless communications:

- There are 3 programs. Hospitals can sign up for all 3 at one time. The link for the description of all the programs is: http://www.fcc.gov/pshs/services/priority-services/

    - **Telecommunications Service Priority (TSP**): allows for priority access and priority restoration (for wired lines) TSP: Telecommunications Services Priority (TSP program) provides for priority provisioning and restoration of essential telecommunications services. Can be accessed at: http://www.fcc.gov/pshs/services/priority-services/tsp.html or http://tsp.ncs.gov - TSP for priority provisioning or restoration of critical telecommunication circuits.
      Costs: $100 enrollment fee; monthly fee/line averages $3.00.

    - **Government Emergency Telecommunications Service (GETS):** provides emergency access and priority processing in the local and long distance segments of the Public Switched Network (PSN) for wired lines. It is intended to be used in an emergency or crisis situation during which the probability of completing a call over normal or other alternate telecommunication means has significantly decreased. Can be accessed at:
      http://www.fcc.gov/pshs/services/priority-services/gets.html or
      http://gets.ncs.gov - GETS for priority treatment when using a landline phone.
      Costs: No enrollment fee/card; a charge of up to 10¢/minute applies to calls made through the GETS.

- **Wireless Priority Service Program (WPS):** improves connection capabilities for a limited number of authorized national security and emergency preparedness (NS/EP) cell phone users over a wireless network. This can include key HICS team members for your hospital. In the event of congestion in the wireless network, an emergency call using WPS will have priority queuing for the next available channel. Can be accessed at:
  http://www.fcc.gov/pshs/services/priority-services/wps.html or
  http://wps.ncs.gov - WPS for priority treatment when using a cellular phone.
  Costs: One time activation fee of $10; monthly fee of $4.50; and charges of 75¢/minute when used.

What is being planned for the future by the Federal Communications Commission (FCC)?

- 700 MHz public safety broadband network (hospital emergency department networks for EMS communications are qualified to be included):
  - Will support data streaming (ie. medical records), video streaming, photo transfers and texting;
  - May take 6-10 years to build the system, eventually it could also support voice using 4G technology.
  - FCC is working with Congress as to how to build the network;
  - Updated mobile handheld devices including radios will be needed.

Sources:

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- *Roberto Mussenden, Attorney-Advisor, Policy Division, Public Safety and Homeland Security Bureau; 202-418-1428; Roberto.Mussenden@fcc.gov;*
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